Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. ____(Currently amended) A method for measuring bone age comprising:

   (a)   providing an apparatus for estimating bone age by at least one acoustic signal in an ossification-actuated skeletal structure, comprising:

      (I)   an acoustic transmitter and an acoustic receiver positioned facing each other so that said structure is positioned between them; said structure comprises at least two bones; said transmitter is adapted for transmitting said at least one signal to cross said structure transversely; said receiver is adapted for receiving said at least one signal transmitted by said transmitter;

      (II)   an electronic moveable gantry for adjusting the position of said acoustic transmitter and said acoustic receiver in relation to said structure;

      (III) a computer system enabled to perform one or more functions of: controlling said signal transmitted by said transmitter; and estimating said bone age responsive to said received signal by at least one bone age calculation formula.

   (b) transmitting ~~acoustic energy~~ said at least one signal into ~~an ossification actuated skeletal of the body of a subject so that the acoustic energy propagates substantially transvers to the~~ said structure by said transmitter;

   (c) receiving ~~an acoustic signal from said ossification acturated skeletal structure responsive to said transmitted acoustic energy~~ said transmitted at least one signal by said receiver;

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(d) analyzing ~~the acoustic signal to determine~~ said at least one signal and determining at least one effect of said structure on said at least one signal; and

(e) estimating the age of ~~the~~ said structure ~~from~~ by using said determined effect and said at least one formula.

2. (Currently Amended) A The method according to claim 1 wherein ~~said ossifiecation-actuated skeletal~~ said structure comprises one or more areas undergoing ossification.

3. (Currently Amended) ~~A~~ The method according to claim 1 ~~said ossifiecation-actuated skeletal structure comprises one or more bones~~ wherein said estimating of said bone age is in terms of years and months.

4. (Currently Amended) ~~A~~ The method according to claim 1 wherein said ~~ossifiecation-actuated skeletal~~ structure comprises one or more regions of cartilage.

5. (Currently Amended) ~~A~~ The method according to claim 1 wherein said ~~ossifiecation-actuated skeletal~~ structure comprises one or more regions of non-cartilage soft tissue.

6. (Currently Amended) A The method according to claim 5 wherein said ~~ossification-actuated skeletal~~ structure comprises one or more regions of fibrocartilage.

7. (Currently Amended) A The method according to claim 1 wherein said ~~ossification-actuated skeletal~~ structure comprises a region with one or more primary ossification centers.

8. (Currently Amended) The method according to claim 7 wherein said ~~ossification-actuated skeletal~~ structure comprises ~~one or more of:~~ the bones of the wrist~~, the bones of the palm, the bones of the tarsus, the mandible~~.

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9. (Currently Amended) ~~A~~ The method according to claim 1 wherein said ~~ossification-actuated skeletal~~ structure comprises a region with one or more secondary ossification centers.

10. (Currently Amended) ~~A~~ The method of claim ~~9~~ 7 wherein said ~~ossification-actuated skeletal~~ structure comprises one or more epiphyseal growth plates ~~contains an epiphysis.~~

11. (Currently Amended) ~~A~~ The method of claim 9 wherein said ~~ossification-actuated skeletal~~ structure comprises a region of one or more of: an ulna, a radius a femur, ~~a bone of a ray of an extremity.~~

12. (Currently Amended) The method of claim 11 wherein said ulna is the distal end of the ulna; wherein said radius is the distal end of the radius ~~A method according to claim 1 wherein said receiving comprises using two or more different acoustic signals to provide a measure of bone age.~~

13. (Cancelled)

14. (Currently Amended) ~~A~~ The method according to claim ~~12~~ 1 wherein said ~~skeletal structure comprises a portion of each of a plurality of bones and said two or more acoustic signals are associated with paths in different bones~~ step of transmitting further comprises transmitting at least two signals crossing different paths in said structure and said step of receiving comprises receiving said at least two signals.

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Currently Amended) ~~A~~ The method according to claim 1 wherein ~~said analysis of said signal is responsive to~~ said step of determining at least one effect of said structure on said at least one signal is selected from a group consisting of: speed of sound, broadband ultrasound attenuation, dispersion of ultrasound ~~from said ossification-actuated skeletal structure~~.

20. (Cancelled)

21. (Cancelled)

22. (Currently Amended) ~~A~~ The method according to claim ~~1~~ 19 wherein ~~said analysis of said signal~~ said step of determining at least one effect is performed, at least in part, in the frequency domain.

23. (Currently Amended) ~~A~~ The method according to claim ~~1~~ 19 wherein ~~said analysis of said signal~~ said step of determining at least one effect is performed, at least in part, in the time domain.

24. (Currently Amended) ~~A~~ The method according to claim ~~1~~ 19 wherein ~~said analysis of said signal~~ said step of determining at least one effect is responsive to attenuation of said ~~an ultrasound~~ signal in said ~~ossification-actuated skeletal~~ structure.

25. (Currently Amended) ~~A~~ The method according to claim 1 wherein ~~said analysis~~ said step of estimating the age of said structure is used to ~~predict~~ estimate adult stature.

26. (Currently Amended) ~~A~~ The method according to claim 19 wherein ~~to provide an estimate of bone age, said analysis~~ said step of determining at least one effect further comprises a step of ~~is compared~~ comparing said determined effect to a database having correlation with various other relevant effects determined from

one or more of the following imaging techniques for bone age estimation: conventional radiographs, CT images, MRI images and Nuclear Medicine scans.

27. (Currently Amended) A The method according to claim 1 wherein said receiving is from said transmitter is a scanning acoustic signal transmitter.

28. (Currently Amended) A The method according to claim 1 wherein said receiving is from transmitter is a multi-beam acoustic signal transmitter.

29. (Cancelled)

30. (Cancelled)

31. (Currently Amended) A The method according to claim 1 wherein said analysis said step of estimating the age of said structure is correlated with a known bone age measurement system.

32. (Currently Amended) A The method according to claim 1 wherein said analysis said step of estimating the age of said structure is responsive to a formula providing a correlation with a known bone age measurement system.

33. (Currently Amended) A The method according to claim 32 wherein said formula is responsive to at least one of: speed of sound, broadband ultrasound attenuation, scattering and dispersion of acoustic signal through or from said ossification actuated skeletal structure.

34. (Currently Amended) A The method according to claim 32 wherein an estimate of bone age is responsive to time of flight of an acoustic signal between two transducers, with said ossification actuated skeletal structure being situated intermediate to said transducers.

35. (Cancelled)

36. (Currently Amended) A ~~The~~ method according to claim 1 ~~wherein said acoustic information is constructed~~ <u>further comprises a step of transferring said age and said at least one signal</u> into a database of bone age measurements.

37. (Currently Amended) A ~~The~~ method according to claim 36 wherein said database is arranged according to one or more of: sex, ethnic group, geographic location, nutrition and general inheritance.

38. (Currently Amended) A ~~The~~ method according to claim 36 wherein said database includes two or more measurements of one or more of said ~~ossification actuated skeletal~~ structure.

39. (Currently Amended) A ~~The~~A method according to claim 36 wherein said database includes one or more measurements of two or more growth stages from said ~~ossification actuated skeletal~~ ~~ossification-actuated-skeletal~~ structure.

40. (Currently Amended) A ~~The~~ method according to claim 36 wherein said database includes one or more measurements of said ~~ossification actuated skeletal~~ structure in two or more populations.

41. (Currently Amended) A ~~The~~ method according to claim ~~36~~ <u>26</u> ~~wherein said received signals are compared to similar signals in a database to predict~~ <u>comparing said determined effect</u> is further comprising a step of <u>predicting</u> one or more of adult bone length, density, thickness ~~and~~<u>,</u> resilience and adult stature.

42. (Currently Amended) A ~~The~~ method according to claim ~~36~~ <u>26</u> wherein ~~said received signals are compared to similar signals in a database to indicate~~ <u>comparing said determined effect</u> is for <u>indicating</u> <u>one or more of: a</u> bone-growth related disorder<u>, a growth plate disorder and a growth related disorder.</u>

43. (Currently Amended) A ~~The~~ method according to claim ~~36~~ <u>26</u> wherein ~~said received signals are compared to similar signals in a database to track~~ <u>comparing</u>

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said determined effect is for tracking the progress of a bone-growth related disorder.

44. (Currently Amended) A The method according to claim 36 26 wherein said said received signals are compared to similar signals in a database to track comparing said determined effect is for tracking hormone therapy in a growth stature disorder.

45. (Currently Amended) A The method according to claim 36 26 wherein said received signals are compared to similar signals in a database to indicate comparing said determined effect is for indicating one or more of: growth-plate related disease states, including osteogenic sarcoma, slipped growth plate, premature arrest of growth plate growth and inflammation of growth plate.

46. (Cancelled)

47. (Currently Amended) A The method according to claim 36 wherein two or more acoustic measurements are compared to track further comprising a step of tracking one or more growth-related disorders, including precocious puberty, delayed puberty, rickets, kwashiorkor, hypoparathyroidism, pituitary dwarfism and diabetes.

48. (Cancelled)

49. (Currently Amended) An apparatus for estimating bone age by at least one acoustic signal in an ossification-actuated skeletal structure, comprising:

(a) an acoustic transmitter and an acoustic receiver positioned facing each other so that an ossification actuated skeletal structure may be said structure is positioned between them; said structure comprises at least two bones; said transmitter is adapted for transmitting said signal to cross said structure transversely; said receiver is adapted for receiving said at least one signal transmitted by said transmitter;

(b) an electronic moveable gantry ~~for adjusting~~ that adjusts the position of said acoustic transmitter and said acoustic receiver in relation to said ~~ossification-actuated~~ structure;

(c) a computer system ~~that performs~~ enabled to perform one or more functions of: ~~positioning of said moveable gantry~~

controlling said ~~acoustic~~ signals transmitted by said ~~acoustic~~ transmitter;

~~receiving acoustic signals from said receiver responsive to said transmitted signals;~~ and

estimating said bone age responsive to said received signal by at least one bone age calculation formula.

50. (Cancelled)

51. (Cancelled)

52. (Currently Amended) The apparatus of claim 49 wherein said computer system controls said ~~acoustic~~ transmitter to provide ~~an acoustic~~ said signal appropriate for said ~~ossification-actuated~~ structure.

53. (Currently Amended) The apparatus of claim 49 wherein said computer system estimates said bone age responsive to one or ~~of~~ more of: broadband ultrasound attenuation, acoustic backscatter, dispersion of acoustic signal and speed of sound in said ~~ossification-actuated~~ structure.

54. (Original) The apparatus of claim 49 wherein said computer system uses an imager to control the position of said acoustic signal receiver and said acoustic signal transmitter.

55. (Original) The apparatus of claim 49 said computer system contains a visual display to provide information on said bone age.

56. (Original) The apparatus of claim 55 wherein said visual display comprises a graph.

57. (Original) The apparatus of claim 49 wherein said computer system is comprised in a computer network.

58. (Original) The apparatus of claim 49 wherein said computer system comprises a neural network.

59. (Currently Amended) The apparatus ~~of any~~ of claim 49 wherein said computer system compares said ~~received acoustic~~ signal to a database containing information of one or more acoustic signals from ~~said~~ one or more other ossification-actuated skeletal structures to provide an estimate of bone age.

60. (Cancelled)

61. (Cancelled)

62. (Cancelled)

63. (Cancelled)